Hepatitis c transmission through direct contact with infected blood underlines ma...

Health & Medicine

Hepatitis C is an infectious disease that disrupts the function of the human liver. It is perpetuated the hepatitis C virus (HCV), which is transmittable between people. HCV is spread by direct contact with the blood of an infected person. HCV may precipitate more severe illnesses such as cirrhosis and liver cancer. The purpose of infection control is to reduce or eliminate the spread infectious diseases.

These diseases are usually caused by bacteria or viruses and can be spread by human, animal and surface contact with an infected entity as well as airborne transmission from microscopic droplets of infectious microbes traveling through the air, water or even food (Jump, 2012). A model used to understand the infection process is the chain whereby disease is spread. Each component is vital for the development of infection to manifest in a human being. This must occur in a proper sequence, furthermore. Fully comprehending the components of each link provides you with methods to prevent the spread of infection.

Links

The spread of infection is best described as a chain with six links. These components include agents, reservoirs, portals of exit, modes of transmission, entry portals and vulnerable hosts (2012). Infectious agents feature bacteria, viruses, fungi and parasites, which if given the opportunity, can enter and survive in the human body (Lee, 2013). Reservoirs consist of any person, animal, anthropod, plant soil or substance in which an infectious agent normally lives and multiplies. Infectious agents need reservoirs in order to survive, reproduce and be transmitted. Humans are the most

common reservoirs of infectious agents. Portals of Exit enable the infectious agent to escape their reservoir. Portals of exit from the human reservoir include the blood steam through open wound, needle puncture site, breaks in skin or mucous membranes. Respiratory Tracts feature the nose, mouth and endotracheal tubes (Jump, 2012). The gastrointestinal tract includes the mouth in terms of saliva and drainage tubes such as the urinary tract.

Modes of Transmission

Infectious agents travels to the host via transmission. There are a bevy of routes of accomplishing this transfer, including airborne, direct and indirect contact, droplet, vector, and common vehicles. Airborne sans include very small droplets generated by a person when the speak, cough or sneeze. These droplets stay suspended on dust particles or air. In addition, the host needs to breathe in the infectious agent which can result in the measles or chickenpox, among other forms of disease.

Contact

Direct contact is the transfer of microorganisms from direct physical contact between the infected/colonized person and the host traditionally through body surfaces. Indirect contact is the transfer of microorganisms to the host via an intermediate object such as clothing or cups (Nettina, 2013). Large droplets are generated by a person when coughs or sneezes.

Droplets are projected in the air a short distance and deposited on the mucosa of the host either the nose, eyes, or mouth precipitant conditions such as influence or meningitis. An insect or animal can transmit an

infectious agent to the host as well resulting in the development of Lyme diseases or West Nile virus.

Transmission Vehicles

Common vehicle transmission refers to a single contaminated source such as food, medication, intravenous fluid, or equipment, which serves to transmit infection to multiple hosts. This can nurture a massive and threatening disease spread. Prevention controls for mitigating this risk include adhering to appropriate standards in the preparation of food and medications and in the decontamination of equipment.

Moreover, infectious agents often enter the body through the same route they exited the reservoir whether it be non-intact skin or a respiratory tract. The final link in the chain of infection is a susceptible host; someone at risk of infection. Infection does not occur automatically when the infectious agent enters the body. Some factors affecting the ability to fight off infection are age, underlying disease, and an immunocompromised status.

Routine Best Practices for Prevention

Infection prevention means breaking the chain of infection or interrupting the infectious disease process. Routine practices refers to infection prevention and control practices to be used with all patients under treatment, to mitigate their exposure to bacteria in all health care settings. Nursing practitioners should assume that blood and body fluid of any patient may be infectious. Practitioners should employ personal protective equipment and other infection control practices to prevent transmission.

Decisions about personal protective equipment use should be determined by the type of clinical interaction with patients. The fundamental approaches of routine treatment feature: risk assessment, hand hygiene, environmental precautions, administrative standards and personal vigilance. Furthermore, risk assessment should be performed before each interaction with a client or their environment.

A dynamic process should be executed based on continuing changes in information. This, thereby, determines which interventions are required to prevent transmission during the interaction. The risk assessment includes: evaluating the likelihood of disease transmission through fluid exposure, touch or clothing as well as determining symptoms of disease such as cough or vomiting. When done correctly, hand hygiene is the best defense against transmission of disease and infection. Good hand hygiene is easy to learn and can reduce the spread of illness in both children and adults.

Moreover, environmental controls are measures that are built into the infrastructure of the emergency service setting that have been shown to reduce the risk of infection to staff and patients. This includes patient care equipment that is in good repair and hygiene standards. Engineering approaches should feature appropriate layouts and design featuring preferred controls as they do not depend on individual health care provider compliance.

From an administrative perspective, infrastructure evaluations should measure what the health care setting puts into place to protect practitioners

and patients from infection. Infection prevention and control education should be provided to all staff including: disease transmission, the risks associated with infectious diseases, appropriate cleaning and/or disinfection of equipment and the environment and education about respiratory etiquette.

Healthy workplace policies such as not coming into work when ill with symptoms of an infection should be clearly established (Nettina, 2013). One of the most effective preventive measures to protect patients and practitioners from acquiring communicable diseases is immunization. The last control is at the level of the worker is in terms of protective equipment. Through the use of personal protective equipment, practitioners can ensure their health from the transmission of infectious agents.

Supplementary precautions refer to infection prevention and control interventions to be used in addition to routine practices to protect staff and patients to interrupt transmission of an infectious agent that are suspected or identified in a patient (Jump, 2012). These additional precautions are based on the mode of transmission such as the nature of contact or through airborne transmission. Additional precautions include using gowns and gloves for contact with client or their environment such as medical equipment, environmental surfaces such as MRSA. Using surgical masks and eye protection when providing care within 2 meters of client is advisable when preventing the spread of influenza.

Bolstered precautions may also include using a fit tested N95 respirator to prevent the spread of infection related to the measles. Institutions, further should ensure spatial organization and signage for practitioners and patients, buttressing the type of additional precautions, dedicated equipment, additional hygiene practices, minimized movement of those under care and communication about the preventive measures being maintained to other health care settings and facilities (Lee, 2013). This communication is very important for practitioners when transporting patients.

At the same time, a fluid approach should be taken in this matter, as practitioners often learn more of the potential risks and ways of preventing them through direct experience and the evolution of research findings. Maintaining a flexible stance in prevention and awareness process will ensure that practitioners and patients capitalize on new revelations regarding disease transmission prevention. As a result, the application of SWOT analyses may prove fruitful in enhancing the self-awareness of practitioners and institutions as they advance in developing more impactful methods to address disease privation and transmission.

Evidence collected by research conducted in the United Kingdom and the United States suggests that superior nursing staffing is associated with providing optimal critical care and driving prime patient outcomes (Kane et al, 2007). A connection between the length of a patient stay, patient mortality and the number of nurses on duty has been revealed by research in relation to patient outcomes and nursing in general hospital wards.

Increased length of stay and higher mortality is linked to staffing fewer nursing staff members. Moreover, further examination of facts and information is required to comprehend the association between patient care and nursing numbers (Ford, 2009). Ultimately, patient safety and quality care pivots on emphasizing significant nursing staffing in critical care units.

Measuring and defining the quality of nursing care is to be developed as part of the quality indicators (metrics) to reflect issues of compassion, patient experience, effectiveness and safety delivered by a workforce which is well trained. In hospital settings, nurses are the only consistent professional to be in constant 24-hour surveillance of patients. In order to provide safety and quality patient care, ensuring adequate nurse numbers and improving their competence and education is necessary (Hinshaw 2008). Quality nursing care is required for patients in intensive care units (ICUs). Moreover, in ICUs, nurse staffing varies widely.

Indeed, there is no consensus on the perfect nurse-to-patient ratio (Groeger, Strosberg & Halpern, 1992). In fact, nurse-to-patient ratios have come down due to efforts to reduce costs of hospital care. Nevertheless, it may prove transformational in preventing the spread of disease within the facility. Ultimately, practitioners will need to adopt a fluid approach, whereby they change and adapt their approaches to the needs of patients as well as the demands of the healthcare industry in the 21st century.